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- *1429 Establishment and Characterization of a Melanoma Cell Line from a Xeroderma Pigmentosum Patient: Activation of N-ras at a Potential Pyrimidine Dimer Site. W. Keizer, M. P. Mulder, J. C. M. Langewijk, E. M. E. Smits, J. L. Box, D. Bootsma, and J. H. J. Hoeijmakers.
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- *1371 Polyamine Involvement in the Growth of Hormone-responsive and -resistant Human Breast Cancer Cells in Culture. Patricia Gilman, Andrea Manni, Laurence Demers, and Mary Bartholomew.
- 1377 Effect of Androgen on Proliferation of Estrogen-responsive Transformed Mouse Leydig Cells in Serum-free Culture. Yasuko Nishizawa, Bunzo Sato, Kazumasa Nishii, Susumu Kishimoto, and Keichi Matsumoto.
- *1383 1- β -D-Arabinofuranosylcytosine and Hydroxyurea Production of Cytotoxic Synergism with cis-Diamminedichloroplatinum(II) and Modification of Platinum-induced DNA Interstrand Cross-Linking. Lode J. Swinnen, Diane M. Barnes, Susan G. Fisher, Kathy S. Albain, Richard J. Fisher, and Leonard C. Erickson.
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- *1397 Sensitivities of Monolayers and Spheroids of the Human Bladder Cancer Cell Line MGH-U1 to the Drugs Used for Intravesical Chemotherapy. Ruth Knuchel, Ferdinand Hofstadter, Wendy E. A. Jenkins, and John R. W. Masters.
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- *1408 Combination Cytotoxic Immunotherapy with Tumor Necrosis Factor α , Interleukin 2, and α -Interferon and Its Synergistic Antitumor Effects in Mice. Joe K. McIntosh, James J. Mull, Jody A. Kronick, and Steven A. Rosenberg.
- *1415 Biochemical and Immunological Properties of the Human Carcinoma-associated CAR-3 Epitope Defined by the Monoclonal Antibody AR-3. Maria Prat, Enzo Medico, Paola Rossino, Cristina Garrino, and Paolo M. Comoglio.
- *1422 Expression of Anionic Glutathione-S-transferase and P-Glycoprotein Genes in Human Tumors and Tumors. Jeffrey A. Mowcow, Craig R. Fairchild, Mary Jane Madden, David T. Ransom, Harry S. Wenzel, Erin E. O'Brien, David G. Pogliack, Jeffrey Cozman, Charles E. Meyers, and Kenneth H. Cowan.
- 1429 Synergistic Antitumor Effects of Topoisomerase Inhibitors and Natural Cell-mediated Cytotoxicity. Tetsuhiko Utsumi, Sandra Demuth, and Nabil Hanna.

- 1434 Effects of α , β -2-Dihydroxyethylruthenium and Indomethacin on Mammary Tumor Promotion in Rats Fed High α - and ω -6 Fat Diets. Sood H, Arai-Ehlich, Keith W, Prasad, Robert L, Farrel, Richard W, Carroll, Adithien E, Wade, and Opal R. Dunc.
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 - 1447 Effect of Uterary Pain Oils on Mammary Carcinogenesis in Female Rats Induced by 7,12-Dimethylbenz(a)anthracene. K. Sundaresan, H. T. Khor, Augustine S. H. Ong, and R. Pathmanathan.
 - 1452 Competitive Inhibition by Versapall of ATP-dependent High Affinity Vincristine Binding to the Plasma Membrane of Multidrug-resistant K562 Cells without Calcium Ion Involvement. Mahalingam Naidu and Takashi Tsunoo.
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 - 1465 Structure-Activity Study of the Actions of Camptothecin Derivatives on Mammalian Topoisomerase I: Evidence for a Specific Receptor Site and a Relation to Antitumor Activity. Christine Jazet, Karl W. Kohn, Manohar C. Wan, Monroe E. Wall, and Yves Pommier.
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 - 1521 Morphological and Cytokinetic Responses of Hamster Airways to Intratracheally or Intracranially Administered with Irritation of Saline or Ferri Oxide Particles in Solution. Kevin P. Keenan, Umberto Saffioti, Sherman F. Simon, Charles W. Rigg, and Elizabeth M. McDowell.
 - 1528 Multifactorial Human Respiratory Carcinogenesis with Interdependent Effects of Causally-induced Mucosal Wounding, Saline, Ferri Oxide, Benzopyrene and N-Methyl-N-nitrosamine. Kevin P. Keenan, Umberto Saffioti, Sherman F. Simon, Charles W. Rigg, and Elizabeth M. McDowell.
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 - 1554 Production of Hepatocellular Carcinoma by Oral Cells: Cell Cycle Expression of c-myc and P53 and Different Stages of Oral Cell Transformation. Lundy Braun, Ryoko Mikogawa, and Nelson Fausto.
 - 1562 Induction of Osteosarcoma in Mouse Lung. Verheide by Repeated External β -Irradiation. Akira Ohtayama and Hiroshi Tanaka.
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 - 1587 Effect of Specific Antibody Prevention on Liver Uptake of 125 I-labeled Anticarcinogenic Cytosine Nucleoside Analogs. Barbara G. Beatty, J. David Beatty, Lawrence E. Williams, Raymond J. Paxton, John E. Shively, and Margaret O'Connor-Turner.

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 - 1644 **Oxidative Damage in Murine Tumor Cells Treated *In Vitro* by Recombinant Human Tumor Necrosis Factor.** Robert J. Zimmerman, Anthony Chan, and Steven A. Leaden.
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 - 1671 **Intracellular Hyaluronidase Production Induced by Recombinant Human Tumor Necrosis Factor and its Implication in the Killing of Tumor Cells *In Vitro*.** Hiroshi Kuriyama, Naoki Watanabe, Hiroshi Noda, Naofumi Yamuchi, Masahiko Maeda, and Yoshino Nito.
 - 1676 **Modification of Transplacental Tumorigenesis by 3-Methylcholanthrene in Mice by Genotype at the Aa Locus and Pretreatment with *p*-Nucleobutylamine.** Lucy M. Anderson, Ann B. Jones, Charles W. Riggs, and Robert M. Kovach.
 - 1682 **Role of Lipid Peroxidation in Hematopoietic Agents: Analized Photoinduction of Tumor Cells: Protective Effects of Glutathione Peroxidase.** James P. Thomas and Albert W. Girotti.
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 - 1693 **Association of *h-ras* with Amplified DNA Sequences, Detected in Human Ovarian Carcinomas by a Modified In-Gel Renaturation Assay.** Manabu Fukumoto, Richard D. Estensen, Lisa Shu, Gerard J. Oakley, Leo B. Twigg, Leon L. Adcock, Linda F. Carson, and Ipr B. Roninson.
 - 1698 **Inhibition by Retinoic Acid of Type IV Collagenolysis and Invasion through Reconstituted Basement Membrane by Metastatic Rat Mammary Adenocarcinoma Cells.** Motono Nakahara, Daifu Lotan, Mirra M. Buz, Richard Carver, W. Rebecca Wood, Ram J. C. Hendrix, and Ruben Lotan.
 - 1707 **Effect of Mice of ¹²⁵I-Bradykinin-EDTA Monoclonal Antibody on Hematic Uptake and Processing in Mice.** Gregory P. Adams, Sally J. DeNardo, Shrikant V. Deshpande, Gerald L. DeNardo, Claude F. Meares, Michael J. McCall, and Aloni L. Epstein.
 - 1712 **Reduced DNA Break Formation and Cytotoxicity of the Topoisomerase II Drug 4'-O⁺-Acetylaminodiazirine/oxazirone-ox-aziridine When Combined with Hyperthermia in Human and Rat Cell Lines.** H. H. Kampinga, G. v. d. Krogh, and A. W. T. Koning.
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 - 1727 **Sister Chromatid Exchange in Chromic Ethylene Oxide-exposed Primates: Unexpected Effects of *In Vivo* Culture Duration, Incubation Temperature, and Serum Supplementation.** Karl T. Kelsey, John K. Wiercinski, Ellen A. Eizen, Dennis W. Lynch, Trent R. Lewis, and John B. Little.
 - 1732 **Peroxyl Radical- and Cytochrome P-450-dependent Metabolic Activation of 4-(2-*n*-butylphenyl)-2-methyl-5-oxo-3-pyridine Sulfone in Mouse Skin *In Vitro* and *In Vivo*.** David Olson, György Sz. Annette Nienisch, and Lawrence J. Marnett.
 - 1738 **Characterization and Bioindication of Recombinant and Recombinant/Chimeric Constructs of Monoclonal Antibody B72.3.** David Colcher, Diane Milescu, Mario Rorelli, Andrew Raubchek, Geoffrey Yarrington, David King, John Adair, Nigel Whitely, Mark Badmer, and Jeffrey Schindl.
 - 1748 **Secretion, Glycosylation, and Phosphorylation of Rat-Specific, Transformation-associated Protein in Murine Murine Sarcoma Virus-transformed Rat Cells.** Wangjun Li and James C. Chen.
 - 1752 **Pharmacokinetics of Internally Labeled Monoclonal Antibodies in a Gold Standard: Comparison of Bioindication of ⁹⁰Y, ¹²⁵I, and ¹²⁵I-labeled Murine Anti-human Tumor Necrosis Factor Monoclonals in Nude Mice.** Mitsuru Kikuchi, Keigo Endo, Yoji Watanabe, Tsuneo Suga, Harumi Sakahara, Junji Konishi, Takao Yamamoto, and Sakaji Toyama.
 - 1758 **Antiestrogenic Action of Tamoxifen on Hormone-dependent, Androgenic, and Heterogenous Breast Tumor Growth in the Athymic Mouse.** Simon P. Robinson and V. Craig Jordan.
 - 1763 **Isolation and Characterization of Complementary DNA to Proliferating Cell Nuclear Antigen P48.** A. Brannan Reid, Amelia Chatterjee, Lawrence I. Rothblum, Ann Black, and Harris Busch.
 - 1768 **Increased Tumor Response to Ultrasound in the Walker Carcinomas Treated with Vasodilator Drugs.** Wolfgang H. Kunze, Jörg Debus, Frantisek Hlasek, Han-Jong Sim, and Hermann Oelrich.
 - 1773 **Transcripts of the Insulin-like Growth Factors I and II in Human Hepatoma.** Tong-Sheng Su, Wang-Yu Lin, Shao-Hua Han, Martin Jansen, Teresa L. Yang-Fu, Fang-Ku Fong, and Chang-Chou Chou.
 - 1778 **Influence of the Alkyl Substitution on Mutagenicity and Covalent DNA Binding of Rat Hepatic Dial-Epoxides of 7-Methyl- and 7-Ethylbicyclo[2.2.1]heptane in Salmonella and V79 Chinese Hamster Cells.** Hermann Glatt, Ronald G. Harvey, David H. Phillips, Alan Hever, and Philip L. Grover.
 - 1783 **Sex Differences in the Single-Dose Toxicities of *N*-Nitrosourea 4-hydroxybutylamine in the Rat.** Anthony J. Sweeney, Raymond W. Vinas, Joseph A. Hsieh, Young-Hua Hsu, and Larry K. Keefer.
 - 1790 **Cholera Expression of a FcγR2 Gene and its Relation to Abnormal Gene Expression during Rat Acute Hepatic Necrosis.** Jean-Yves Scanzani, Alain Morice, Gérard Feldmann, and Dominique Perreux.
 - 1797 ***N*-Pain Amplification and Neuronal Differentiation in Human Primary Neuroectodermal Tumors of the Central Nervous System.** Emile Roussier, Deborah R. Wilson, Dawna L. Armstrong, and Gretchen J. Darlington.
 - 1802 **Monoclonal Antibody to a Proximal Nephron Brush Border Antigen.** Toshiyuki Kuroki, Kazuo Ando, Toshiyuki Kuroki, Parvati-embodded Human Renal Cell Carcinoma, Samuel O. Yoshida and Adachi Inoue.
 - 1810 **Treatment of *N*-Nitrosourea-*in vivo* Induced Pancreatic Cancer in Syrian Golden Hamsters with N-Tp-6-L11-81 and Semioctatin Analogue RC-168 Microcapsules.** Akin Zalzaltz and Andrew V. Schally.
 - 1816 **Tumor Cell Invasion of Three-dimensional Matrices of Defined Composition: Evidence for a Specific Role for Heparan Sulfate in Breast Cell Lines.** Nancy P. Robertson, Jean R. Starkey, Steve Hammer, and Gary G. Meadows.
 - 1824 **Differential Sensitivity of HLA Class II Antigen Induced by γ -interferon in Human Neuroblastoma Cell Lines.** Tofun Sogomonian, Yung-Hsiang Tsai, Toshiaki Hino, John T. Crowder, Hiroshi Kuroda, Tadaaki Sawada, Hiroyuki Morikita, Taro Imanishi, and Hiidenko Inoko.
 - 1829 **Immortalization of Normal Human Kidney Epithelial Cells by Nickel(II).** Guri Tveit, Inger-Lise Hantzen, Helge Dalen, and Aage Haugen.
 - 1836 **Attempts to Target Antitumor Drugs toward Opioid Receptors in Murine Tumor Cells with Zinkphthal-Ellipticium Complexes.** Pascal Raguin, Jean-Yves Churonnet, Christine Garbaye-Juregoury, Alain Jacquemin-Sablon, and Bernard P. Ruyss.
 - 1843 **Antitumor Activity and Surface Phenotypes of Human Gliomas Inhibiting Lymphocytes after *In Vivo* Expansion in the Presence of Interleukin 2.** Yutaka Sawamura, Mitsuo Hasekura, Maria C. Kappas, Hiroaki Kobayashi, Tadamasa Aida, Hiroshi Aiba, and Nicolaus de Triebel.

- 1850 Inhibition of Promotion and Persistent Nodule Growth by 5-Adenylate-methionine in Rat Liver Carcinogenesis: Role of Re-modeling and Apoptosis. Renato Garcia, Lucia Daino, Rosa Pascale, Maria M. Simile, Marco Puddu, Serenella Frassetto, Patrizia Cuzzolino, Maria A. Soldati, Leonardo Gaspo, and Francesco Fico.

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- 1857 A Prospective Study of Demographics, Diet, and Prostate Cancer among Men of Japanese Ancestry in Hawaii. Richard K. Severson, Abraham M. Y. Nomura, John S. Grove, and Grant N. Sierrenman.
- 1861 Lung Cancer in Women and Type of Dwelling in Relation to Radon Exposure. Christer Svensson, Goran Persliden, and Julius Kluemmel.

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- *1899 The Role of *O*-Alkylguanine DNA Alkyltransferase in Limiting Nitrosourea-induced Sister Chromatid Exchanges in Proliferating Human Lymphocytes. Joan E. Trex and Stanton L. Gerson.
- 1904 Effect of Type and Amount of Dietary Fat on the Enhancement of Rat Mammary Tumorigenesis by Exercise. Henry J. Thompson, Anne M. Roman, Karen A. Riatico, and Anthony R. Tagliero.
- *1909 Preclinical Antitumor Activity of an α -Picoline Derivative, Picolomene (NSC 338720), on Human and Murine Tumors. Jacqueline Flouman, Sreedaman D. Harrison, Jr., Donald J. Dykes, Kenneth D. Paul, V. L. Narayanan, Helen K. Tobol, Jack Martin, and Daniel P. Griswold, Jr.
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- *1927 Reduced Levels of UV-induced Unscheduled DNA Synthesis in Epidermal Keratinocytes of Patients with Xeroderma Pigmentosum and Correlation with Development of Skin Neoplasms. Seiji Kondo, Yoshiki Sato, and Toshiro Kuroki.
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- *1954 Heat Sensitivity, Thermotolerance, and Profile of Heat Shock Protein Synthesis of Human Myelogenous Leukemia. Nahid F. Mirvchi.
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January 1: Richard J. Steckel and the Jonsson Comprehensive Cancer Center.

January 15: Vinzenz Czerny, Karl Heinrich Bauer, Dietrich Schmahl, Erich Hecker, Werner W. Franke, Harald zur Hausen, and the German Cancer Research Center.

February 1: George Hitchings and Gertrude Elion, 1988 Nobel Laureates.

February 15: Leon Jacobson and the Ryerson Building, University of Chicago.

March 1: Timothy R. Talbot, Jr. and The Fox Chase Cancer Center.

March 15: Randolph Lee Clark and the R. Lee Clark Clinic.

April 1: Eric Stanbridge, Henry Harris, Carl Barrett, Elizabeth Gateff, and a diagram of cell fusion yielding a suppressed hybrid.

April 15: Irwin Fridovich.

May 1: David B. Yohn, David E. Schuller, and the Arthur G. James Center of the Ohio State Cancer Center.

May 15: Raymond L. White, Janet D. Rowley, Bert Vogelstein, Leonard J. Lerner, and V. Craig Jordan, winners of the 1989 American Association for Cancer Research awards.

June 1: Guy Newell, Lovell Jones, and a chart illustrating racial disparity in cancer incidence.

June 15: Peter K. Vogt, winner of the 1989 Bristol-Myers Award for Distinguished Achievement in Cancer Research.

July 1: Louis W. Sullivan, Secretary of Health and Human Services.

July 15: Marie A. DiBerardino, Robert G. McKinnell, Thomas J. King, Robert Briggs, and a cloned frog.

August 1: James A. Miller, Honorary Member, and Elizabeth C. Miller.

August 15: Leroy Burney, Luther L. Terry, Jesse L. Steinfeld, and C. Everett Koop, Surgeons General.

September 1: Carl G. Schmidt, Bernhard Kornhuber, and an announcement for the International Union Against Cancer's 15th International Cancer Congress.

September 15: Johannes Sander, Richard N. Loeppky, Sidney Mirvish, William Lijinsky, and formulations depicting key formations in nitrosamine carcinogenesis.

October 1: Janet Rowley, Peter C. Nowell, Donald Metcalf, Mortimer Elkind, and Leo Sachs.

October 15: Michael J. Hill, Kenneth K. Carroll, Bandaru S. Reddy, and Norman D. Nigro.

November 1: Emmanuel Farber, Henry Pitot, Gary Williams, and photomicrographs of a γ -glutamyl transferase focus and an iron-excluding focus.

November 15: S. J. Singer, Garth Nicolson, and a diagram of the fluid mosaic model.

December 1: Douglas V. Frost, Gerhard N. Schrauzer, and Raymond J. Shamberger.

December 15: Peter N. Magee.